

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) A device for optically establishing a combustive reaction with a slurry fuel and air mixture, said device comprising:

an optical energy source for generating an optical signal for interacting with the slurry fuel and air mixture to create a combustive reaction;

at least one combustion chamber containing the slurry fuel and air mixture therewithin;

a transfer device for optically interconnecting said optical energy source with said combustion chamber; and

an intensity profiler for modifying the optical signal to have a high peak power at a leading edge of the optical signal for igniting the slurry fuel and air mixture to initiate the combustive reaction and a lower peak power during a remainder of the optical signal to maintain the combustive reaction of the slurry fuel and air mixture after the ignition.

2. through 5. (cancelled)

6. (original) The device according to Claim 1, wherein said optical energy source includes a laser.

7. (previously presented) The device according to Claim 1, wherein said transfer device includes a fiber optic.

8. (previously presented) The device according to Claim 7, wherein said fiber optic includes a fiber optic bundle.

9. (previously presented) The device according to Claim 1, wherein said output signal includes light.

10. (original) The device according to Claim 9, wherein said light includes a laser beam.

11. (original) The device according to Claim 9, wherein said light comprises wavelengths less than 300 Nanometers.

12. (previously presented) The device according to Claim 1, wherein said output signal has an energy level greater than one (1) Megawatt.

13. (original) The device according to Claim 1, wherein said combustive reaction yields a dissociated mixture.

14. (original) The device according to Claim 1, wherein said combustive reaction yields a mixture of molecular and atomic oxygen and chemically cracked fuel.

15. (previously presented) A device for optically establishing a combustive reaction with a slurry fuel and air mixture, said device comprising:
at least one combustion chamber containing the slurry fuel and air mixture therewithin;

an optical energy source adapted to generate an optical signal for interacting with the slurry fuel and air mixture to create a combustive reaction;

a optical fiber for optically interconnecting said optical energy source with said combustion chamber; and

an optical wavelength filter adapted to filter said optical signal such that residual light having wavelengths longer than a specified length is removed; and

an intensity profiler for modifying the optical signal to have a high peak power at a leading edge of the optical signal for igniting the slurry fuel and air mixture to initiate the combustive reaction and a lower peak power during a remainder of the optical signal to maintain the combustive reaction of the slurry fuel and air mixture after the ignition.

16. through 20. (cancelled)

21. (previously presented) The device according to Claim 15, wherein said optical energy source includes a laser.

22. (previously presented) The device according to Claim 15, wherein said optical fiber is a solarizing optical fiber.

23. (previously presented) The device according to Claim 15, wherein said optical wavelength filter filters said optical signal such that said optical signal comprises wavelengths less than 300 Nanometers.

24 (previously presented) The device according to Claim 15, wherein said optical signal has an energy level greater than one (1) Megawatt.

25. (previously presented) The device according to Claim 15, wherein said combustive reaction yields a dissociated mixture.

26. (previously presented) A device for optically establishing a combustive reaction with a slurry fuel and air mixture, said device comprising:

at least one combustion chamber containing the slurry fuel and air mixture therewithin;

a laser energy source adapted to generate an optical signal for interacting with the slurry fuel and air mixture to create a combustive reaction;

an optical fiber for optically interconnecting said optical energy source with said combustion chamber;

an optical wavelength filter adapted to filter said optical signal such that residual light having wavelengths longer than a specified length is removed; and

an intensity profiler adapted to modify said optical signal to have a high peak power at a leading edge of the optical signal for igniting the slurry fuel and air mixture to initiate the combustive reaction and a lower peak power during a remainder of the optical signal to maintain the combustive reaction of the slurry fuel and air mixture after the ignition.

27. through 30 (cancelled)

31. (previously presented) The device according to Claim 26, wherein said optical fiber is a solarizing optical fiber.

32. (previously presented) The device according to Claim 26, wherein said optical wavelength filter filters said optical signal such that said optical signal comprises wavelengths less than 300 Nanometers.

33 (previously presented) The device according to Claim 26, wherein said optical signal has an energy level greater than one (1) Megawatt.